



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference RK-F54PCT	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/JP2003/013192	International filing date (<i>day/month/year</i>) 15 October 2003 (15.10.2003)	Priority date (<i>day/month/year</i>) 15 October 2002 (15.10.2002)	
International Patent Classification (IPC) or national classification and IPC C23C 4/04			
Applicant KABUSHIKI KAISHA RIKEN			

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of <u>3</u> sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application
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Date of submission of the demand 25 March 2004 (25.03.2004)	Date of completion of this report 30 September 2004 (30.09.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/013192

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

- international search (under Rules 12.3 and 23.1(b))
- publication of the international application (under Rule 12.4)
- international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):

The international application as originally filed/furnished

the description:

pages _____ 1-18 _____, as originally filed/furnished
 pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____

the claims:

pages _____ 15-17 _____, as originally filed/furnished
 pages* _____ received by this Authority on _____, as amended (together with any statement) under Article 19
 pages* 1-10, 13, 14 _____ received by this Authority on 21 September 2004 (21.09.2004)
 pages* _____ received by this Authority on _____

the drawings:

pages _____ 1-12 _____, as originally filed/furnished
 pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____

a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. The amendments have resulted in the cancellation of:

- the description, pages _____
- the claims, Nos. 11, 12 _____
- the drawings, sheets/figs _____
- the sequence listing (specify): _____
- any table(s) related to sequence listing (specify): _____

4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- the description, pages _____
- the claims, Nos. _____
- the drawings, sheets/figs _____
- the sequence listing (specify): _____
- any table(s) related to sequence listing (specify): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP 03/13192

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-10, 13-17	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-10, 13-17	NO
Industrial applicability (IA)	Claims	1-10, 13-17	YES
	Claims		NO

2. Citations and explanations

All of these documents are cited in the international search report.

Document 1: JP 2000-345314 A (Tocalo Co., Ltd.), 12 December 2000, claims

Document 2: EP 1227169 A2 (Fujimi Incorporated), 31 July 2002, claims; [0026], Table 1 and 2 & JP 2002-220652 A (Fujimi Inc.), 9 August 2002, claims; [0026], Table 1 and 2

Document 3: JP 5-18316 A (Toyota Motor Corp.), 26 January 1993, claims

Document 4: JP 60-215754 A (NKK Corp.), 29 October 1985, claims; fig. 1

Explanations

Claims 1-10 and 13-17

Document 1 discloses a coated member sprayed with a high-hardness carbide cermet characterised in that the sprayed coating to be formed on the surface of a heat-resistant metal base is a chromium carbide cermet spray film having chemical components composed of 95 to 50wt.% chromium carbide and 5 to 50wt.% Ni and/or one or more kinds of carbide forming metal selected from Cr, Ta, Ti, Mo and Nb, said film having a porosity of less than 1.20% and an average hardness of 1000 or greater (claims).

Document 2 discloses the average particle size of the CrC powder (Table 1) and documents 3 and 4 disclose known techniques.

With the exception of the difference in the average particle size of the CrC powder (difference 1) of the coated member sprayed with a high-hardness carbide cermet and the combination with a cylinder liner comprising cast iron with a tensile strength of 300MPa or less (difference 2) disclosed in document 1, the invention disclosed in document 1 duplicates those set forth in claims 1-10 and 13-17. Moreover, document 2, which relates to the same technical field as the inventions presented in claims 1-10 and 13-17, discloses the feature of delimiting the average particle size of the CrC powder and, therefore, a person skilled in the art would be able to overcome difference 1.

The feature of combining with a cylinder liner comprising a cast iron with a tensile strength of 300Mpa or less is known in the field of the inventions of claims 1-10 and 13-17, hence a person skilled in the art would be able to overcome difference 2.

Consequently, a person skilled in the art would be able to easily conceive of the invention set forth in claims 1-10 and 13-17 based on the disclosures in documents 1-4.